



W o r l d

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## MEMORANDUM

**Date:** March 16, 2007

**To:** Local governments in the Jordan Lake watershed

**From:** Sydney Miller, Water Resources Program Manager

**Subject:** Proposed Jordan Lake nutrient rules dated March 8, 2007 and fiscal analysis dated March 2007

I have read through the latest drafts of the proposed *Jordan Reservoir Water Supply Nutrient Rules* and *Fiscal Analysis: B. Everett Jordan Reservoir Water Supply Nutrient Strategy*. Staff at the NC Division of Water Quality has clearly made a good-faith effort to prepare the fiscal analysis.

I have prepared some comments, generally from the perspective of local government. Do not construe my comments to represent the opinions of any local governments or their staffs. The opinions in this memorandum are my own. Furthermore, I am certain that I have missed important points within both the rule and the fiscal analysis. Additional reviews would only improve our consideration of the rule and the fiscal analysis.

My comments pertain to both the proposed rules and the fiscal analysis. I have included citations within my comments in an abbreviated format. “.026X” refers to a rule within 15A NCAC 02B .0262-.0272. “FA Chapter X” refers to a chapter of the fiscal analysis.

1. Watershed Nutrient Reduction Goals – The rule (.0262 (6)(a)) states that “rules .0265, .0266, .0267, .0268, and .0269 shall apply to all incorporated municipalities within the Jordan watershed as identified by the Office of the Secretary of State.” However, the rule goes on to state that “those municipalities shall include:” and provides a list of municipalities. The rule should be clarified to indicate that the list is meant only as an example, and that the phrase “shall apply to all municipalities within the Jordan watershed as identified by the Office of the Secretary of State” controls. Newly incorporated municipalities within the Jordan Lake watershed, and municipalities previously outside of the Jordan Lake watershed but that annex property within the Jordan Lake watershed, should become subject to the rule.

## MISSION STATEMENT

*To serve as an intergovernmental organization for local elected officials  
that works proactively on regional issues in order to sustain and improve the quality of life for our citizens.*

2. Agriculture – The relationship between the purpose the rule (.0262 (1)) and the standard BMPs to be implemented (.0264 (7)) is unclear. This is especially true in consideration of the statement that “implementation may have occurred at any time before, during, or after the baseline period.” It would seem that the probability of reducing nutrients from agriculture sufficiently to achieve the nonpoint source nutrient targets under this rule is small. This undermines the nonpoint source nutrient reduction strategy as a whole. Furthermore, agricultural sources generate nitrogen credits by implementing any BMP in addition to the list provided in .0264 (7)(a). By providing a threshold to generate nitrogen credits that bears no relationship to the nutrient reduction targets, agricultural sources may be generating spurious credits, further undermining the nonpoint source nutrient reduction strategy.
3. Stormwater Management for New Development
  - a. The fiscal analysis makes the assumption (FA Chapter 4, p.43) that because “almost all municipalities in the watershed are subject to Phase II requirements and are to implement new development programs beginning mid- to late 2007,” and because “virtually all remaining municipalities fall within water supply watersheds and implement WSW stormwater programs,” that Jordan municipalities will not incur “significant, quantifiable additional costs to implement this rule.” The Phase II and WSW stormwater programs do not have nutrient reduction requirements. Local governments will need new programs and resources to address the nutrient reduction requirements, so I question the validity of this assumption.
  - b. The fiscal analysis states that “much new development activity is likely to fall within municipalities’ planning jurisdictions. Thus, counties should not incur significant additional costs to implement this rule” (FA Chapter 4, p.43). Given the growth that seems to be occurring in counties like Chatham, I question the validity of this assumption.
  - c. The pay rate of \$36/hour (FA Chapter 4, p.44) used to quantify the cost of local governments contracting assistance in preparing ordinances seems rather low.
4. Stormwater Management for Existing Development
  - a. The rule includes the requirement that local governments conduct feasibility studies “to determine the extent to which the loading goals referenced in this Rule may be achieved from existing development within a local government’s jurisdiction through load reducing activities” (.0266 (3)(a)(ii)). What happens if any local government determines that implementing BMPs to reduce loading from existing development sufficiently to meet the nutrient reduction targets is not technically feasible?
  - b. BMP surface area calculations were increased by 15% to account for “slopes, etc.” (FA Appendix B, note 22, p.B-3). This may be a sufficient increase in BMP area to account for topography and site conditions. However, if the land cost calculation is based solely on the BMP footprint (which is true for the cost equations provided by the Ada Wassink and Bill Hunt, and A. Moran and B. Hunt references listed in FA Appendix B, notes 1 and 3, p.B-1), then the land costs do not include the cost of land sufficient to provide access to the BMP for maintenance and monitoring.
  - c. The land value estimate of \$78,000 per acre is based on a weighted average of property values in the City and County of Durham (FA Chapter 5, p.59). The properties used to calculate the weighted average included US Army Corps of Engineers’ land, NC

university property, and road rights-of-way, none of which could be used by local governments for locating BMPs (FA Appendix B, table B-2, p.B-7). Because the land values for those property are lower than average, the weighted average of \$78,000 is likely to be lower than the land costs faced by local governments in implementing this rule, despite the use of “true” land values described in note 2 (FA Appendix B, note 2, p.B-2).

- d. The fiscal analysis calculates the total lifetime cost for all BMPs needed to achieve nutrient reductions based on a proportion of different BMPs. The proportions of different BMPs is based primarily on relative cost effectiveness, with the weighting adjusted somewhat based on local government input (FA Chapter 5, p.60). The selection of BMPs implemented has a very large effect on the total cost of implementing this rule. We will not know what the likely selection of BMPs will be until local governments have completed their feasibility studies and implementation plans. Therefore, we will not have a better idea of total cost until three years after this rule has been adopted.
  - e. The fiscal analysis states that “reduction needs for one nutrient will overtreat for the other by some amount” (FA Chapter 5, p.61). More specifically, the analysis assumes that “significant excess phosphorus reduction would be achieved in meeting nitrogen needs.” The analysis then calculates a “total revenue potential in meeting baseline reduction needs as approximately \$7.6 million.” The Jordan Lake nutrient strategy requires significant reductions in both Total Nitrogen and Total Phosphorus. Because nonpoint sources must achieve reductions in Total Nitrogen, BMPs to reduce nitrogen must be implemented. BMPs that reduce nitrogen would also reduce phosphorus, but credit for one nutrient cannot be traded for a needed reduction in the other nutrient. Phosphorus credits only have value if there are buyers. The assumption of phosphorus over-treatment resulting in \$7.6 million of revenue potential is questionable.
  - f. One cost entirely missing from the fiscal analysis is the loss of tax revenue to local governments. The cost calculation for installing BMPs includes the cost of purchasing land, but not the cost of the lost tax revenue once the land becomes public property. Local governments will lose those tax revenue streams forever. Calculating the net present value of the lost tax revenues could result in a significant cost.
5. Protection of Existing Riparian Buffers
- a. The list of affected local governments (FA Chapter 6, p.86) does not include the municipalities of Ossipee and Swepsonville identified in the rule, .0262 (6)(a).
  - b. The pay rate of \$36/hour (FA Chapter 6, p.87) used to quantify the cost of local governments contracting assistance in preparing ordinances seems rather low.
6. Offsetting Nutrient Loads – The rules for new development (.0265 (3)(a)(vi)), new wastewater dischargers (.0270 (6)(a)(ii)), expanding wastewater dischargers (.0270 (7)(a)(ii)), wastewater discharge group compliance associations (.0270 (9)(h)), new development by non-NCDOT state and federal entities (.0271 (3)(a)(vi)), and new development by NCDOT (.0270 (4)(c)) allow for payments to the NC Ecosystem Enhancement Program as provided in Rule 15A NCAC 2B .0240 to partially offset their nitrogen and phosphorus loads. The NC Ecosystem Enhancement Program is a statewide organization. Any projects paid for with offset payments from a given Jordan Lake subwatershed, but are implemented by the NC Ecosystem Enhancement Program outside of

that subwatershed, reduce the probability of achieving the nutrient reduction targets for that subwatershed.

7. Division of Water Quality Rule Implementation – The fiscal analysis frequently assumes that the cost of implementation for the DWQ would be \$0, because “tasks would be integrated into existing workloads” or “the Division would rely on existing resources to implement the rule” (e.g., FA Chapter 4, pp.45-46; FA Chapter 5, pp.69-70; and FA Chapter 6, pp.89-90). To my knowledge, the DWQ does not currently have idle staff. Implementing this rule will either require increasing staff and resources, redirection of staff and resources currently directed to other programs, or a failure to properly implement the rule. In any case, there is a cost.
8. Cost Calculations in General – The fiscal analysis calculates total costs for implementing rules .0264, .0265, .0266, .0267, .0270, and .0271 for the years 2009-2013. The fiscal analysis also calculates the “full cost” of implementing the stormwater rule for existing development (.0266) and the stormwater rule for state and federal entities (.0271), defining the full cost as a 30-year period. The fiscal analysis does not include an inflation rate in its calculations. The fiscal analysis also does not use a net present value approach, which could be particularly useful for analyzing the costs of long-term programs.

In summary, the proposed rule for agriculture and the provisions for offset payments to the NC Ecosystem Enhancement Program seem to reduce the probability of achieving the nutrient reduction targets for Jordan Lake. The fiscal analysis seems to provide reasonable cost estimates for most of the rules, but may underestimate the cost of the stormwater management rule for existing development; I doubt that the fiscal analysis over estimates the cost. We will not have a better idea of total cost until local governments have conducted feasibility studies and developed implementation plans. The proposed rules will certainly be costly to implement and there are elements within the rules that seem contrary to achieving the objectives.

Should the Environmental Management Commission and the NC General Assembly choose to implement these rules, the state must provide financial assistance to local governments. Local governments throughout the watershed will bear significant costs in implementing these rules, yet most of the local governments and their citizens do not benefit directly from Jordan Lake. This disparity between who pays and who benefits provides a clear role for state government. Furthermore, the state and local governments will not be able to rely on funding from existing grant programs and trust funds, all of which have state wide demands and all of which are already over-extended. The NC General Assembly will have to appropriate funds from the general budget specifically for implementing the Jordan Lake nutrient rules, or dedicate a stream of revenue specifically for that purpose. If we accept the fiscal analysis costs as a starting point, local governments face a cost of implementation at a minimum of \$611,598,000.<sup>1</sup> The General Assembly should commit to building a fund for Jordan Lake nutrient management and contribute at least \$40 Million per year to the fund over the first ten years of implementing the Jordan Lake nutrient rules.

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<sup>1</sup> Total local government implementation cost = \$48,000 for new development + \$403,000,000 for existing development + \$1,550,000 for riparian buffer protection + \$207,000,000 for wastewater (FA Executive Summary, pp.viii-ix)